

# A new fish of the Family Gobiidae from Godavari Estuary

BY

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(With a text-figure)

Godavari estuary, especially the lower reaches with a net work of shallow creeks and dense mangrove vegetation offers a less disturbed habitat mostly favoured among other fishes by a number of gobioids. A detailed account of the Godavari estuarine gobioids belonging to the subfamily Gobiinae has been published elsewhere (Visweswara Rao 1971). This paper describes a new species belonging to the genus *Waitea* Jordan & Seale from the Godavari estuary.

## *Waitea buchanani* sp. nov.

(Text-fig. 1)

*Holotype*: Total length 72 mm (Standard length 56 mm), from Godavari estuary; deposited in the Zoology Museum, Andhra University, Waltair.

*Description*: Based on the holotype.

D<sub>1</sub> 6; D<sub>2</sub> 1+10; A 1+9; P 17; C 14; L. 1.46; L. tr. 14; Predorsal scales 14; GR 3.1.10.

Body elongated, cylindrical anteriorly, compressed posteriorly. Depth 5.8 in total and 4.2 in standard lengths. Head 4.0 in total and 3.0 in standard lengths, slightly depressed behind eyes. Eye 3.5 in head, prominent above dorsal profile, bony interorbital narrow. Snout almost same as eye. Mouth oblique, lips moderate, lower jaw prominent, the gape extends to below middle of eye. Maxilla modified into an expanded spade-like bone, enclosed in a thin membraneous sheath, projects freely behind corner of mouth to preopercular margin. Nostrils simple pores. Many rows of sharp teeth in both jaws; in upper jaw an outer row of widely placed large, curved, caniniform teeth, four in front larger; lower

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jaw with slightly enlarged teeth in outer row with a strong canine at either end. Teeth in upper jaw extend to corners of mouth, those in lower jaw do not extend so far. Palate edentulous, the vomerine bones crenulated, project prominently below roof of mouth covered by tough membrane. Tongue rounded. One pore behind eye, two in the well formed supraopercular groove, one in the margin of preopercle. Some sensory canals on top of head behind eyes and on cheeks. Gill openings well forward below, to middle of preopercle. Gill rakers 3.1.10.

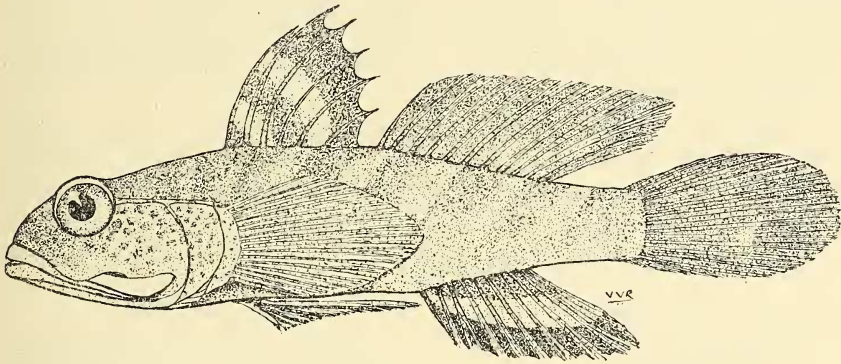


Fig. 1. *Waitea buchanani* sp. nov., type, 72 mm. total length.  
Note the projection of spade-like maxilla beyond corner of mouth.

First dorsal above pectoral base, slightly behind gill openings, spines flexible, 2nd and 3rd longest, base 1.8, height 1.3 in head. Second dorsal origin  $\frac{1}{3}$  eye length behind 1st dorsal, almost midway between hind margin of orbit and caudal base, rays increase in length posteriorly, base 1.2, height 1.3 in head. Anal from below 3rd to 9th rays of soft dorsal, base 1.8, height 1.6 in head, rays increase in length posteriorly, the 1st less than half in the longest ray. Pectoral obtuse, no free rays, a little more than  $\frac{2}{3}$  in head length. Ventral slightly shorter than pectoral, oval. basal membrane well developed. Caudal oblong, slightly shorter than head.

Scales on body become strongly ctenoid and larger in line behind middle of pectoral to second dorsal origin and anal origin, cycloid scales in front. About 14 rows of small cycloid scales on nape before dorsal fin extend to above preopercle. Few cycloid scales on base of caudal fin. No scales on top of head behind eyes, cheeks and pectoral base; breast scaly.

Head and body muddy brown, the former a little darker, large brown blotches on preopercle, opercle and pectoral base. Eight broad transverse bands on body, two from nape to opercle, two below 1st dorsal base, three below 2nd dorsal base and one before caudal base; from third

band they become gradually broader and oblique posteriorly, merging somewhat with the ground colour in the lower third of body. First dorsal dark brown with two transverse lighter bands, anal dark brown with a broad lighter band along its middle, second dorsal, caudal and ventral darker.

*Remarks* : The maxillary bone is prolonged behind eye to varying lengths in some genera of Gobiinae (Day 1878, 1889 ; Koumans 1941, 1953 ; Smith 1959, 1960 ; Visweswara Rao 1971). The new species falls within the genus *Waitea* in having caudal fin shorter than head, many rows of teeth in both jaws, well developed pelvic frenum, gill openings to below preopercle, round tongue and maxilla prolonged to margin of preopercle.

There is a striking resemblance between the new species and *W. duque* (Smith) (Smith 1959). Both have the same number of dorsal and anal fin rays, gill opening half way to eye, rakers well developed, brown bands on body and first dorsal with two lighter bands.

The differences listed below clearly separate the two species.

<i>W. duque</i>	<i>W. buchanani</i>
1. Predorsal scales 2-3, none before gill openings.	Predorsal scales 14, scales before gill openings to front of preopercle.
2. Eye 5 in head.	Eye 3.5 in head.
3. First dorsal attached a little above base to second dorsal (from figure).	First dorsal well separated from second dorsal.
4. First dorsal spine longest, about twice body depth.	First dorsal spine shorter than second, second and third dorsal spines longest, less than depth.
5. Small curved canines in front in each jaw.	Upper jaw with an outer row of widely placed large, curved, caniniform teeth, four in front larger ; lower jaw with a slightly enlarged outer row of teeth with a strong canine at either end.
6. Gill rakers 4.1.13.	Gill rakers 3.1.10.

Apart from the above differences the new species also differs in coloration, having a broad lighter band along the middle of dark anal fin, two broad bands from nape to above opercle and in the presence of a spade-like maxilla which projects out freely behind the corner of mouth. The number of scales along lateral line in the new species (46) is less than that of *W. duque* (50) and more than that of *W. mystacina* (Val.) (37), the only other species belonging to the genus.

The new species is named after Hamilton Buchanan who contributed much to the knowledge of Indian fish fauna.

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## REFERENCES

- DAY, F. (1878): The Fishes of India. London.
- (1889): The Fauna of British India (*Fishes*). London, 2.
- KOUMANS, F. P. (1941): Gobioid fishes of India. *Mem. Indian Mus.* 13.
- (1953): The Fishes of the Indo-Australian Archipelago. Leiden, 10.
- SMITH, J. L. B. (1959): Gobioid fishes of the families Gobiidae, Perio-phthalmidae, Trypauchenidae, Taenioi-didae, and Kraemeriidae of the Western Indian Ocean. *Ichthyol. Bull. Rhodes Univ.* 13.
- (1960): Fishes of the family Gobiidae in South Africa. *ibid* 18.
- VISWESWARA RAO, V. (1971): New gobioids from Godavari estuary. *J. Zool. Soc. India.* 23 (1): 39-54.